

SCIENTIFIC NOTE

New Aquatic Beetle Records for Canada (Coleoptera: Haliplidae, Dytiscidae)

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ABSTRACT

Three species of aquatic beetle, *Peltodytes simplex* (LeConte) (Haliplidae), *Agabus oblongulus* Fall (Dytiscidae) (both from southern British Columbia) and *Ilybius oblitus* Sharp (Dytiscidae) (from southern Ontario) are confirmed as members of the Canadian fauna based on specimens deposited in the Spencer Entomological Museum at the University of British Columbia.

The most recent checklists for the aquatic beetle fauna of Canada are Larson *et al.* (2000) (Dytiscidae) and "Checklist of Beetles of Canada and Alaska" (Bousquet 1991) (all other families). In order to ensure the accuracy of such lists, it is important that each record be traceable to an accessible voucher specimen whose identity and provenance can be verified (McCorquodale 2001, Wheeler 2003).

The collections in the smaller museums found at universities and other institutions across Canada are a valuable resource for the documentation of Canada's biodiversity (Wiggins *et al.* 1991). These collections are frequently overlooked in taxonomic and biodiversity studies (McCorquodale 2001). In part, this neglect is due to chronic underfunding and under-staffing and the lack of authoritative determinations. We have been reexamining the Hydradephaga in the Spencer Entomological Museum collection (SMDV), checking the determinations and building a database of specimen information. A number of interesting records have been found; three in particular stand out and are reported here.

***Peltodytes simplex* (LeConte):** BC, Jaffray, 16 Jul 1955, G. Stace-Smith, 1 male (SMDV). *Peltodytes simplex* was previously known from the southwestern United States (California, Nevada) and northwestern Mexico (Baja California) (R.E. Roughley, unpublished). We are unaware of any records for this species from either Washington or Oregon; there are no records for Utah (Kuehn 2002). There seems little reason to doubt the accuracy of the collection data as G. Stace-Smith was a respected collector who collected prodigiously in British Columbia. This record represents a major northward range expansion for this species and implies a disjunct distribution. Similar disjunct distributions are known in other species, however, it is unclear in this case if the gap in the

distribution is real or an artifact of collecting effort. The current status of *P. simplex* in British Columbia is unknown as there appear to be no subsequent records.

***Agabus oblongulus* Fall:** BC, Metchosin (in "fresh" creek behind beach), 1 Apr 1976, J.D. Reynolds, 1 male (SMDV); BC, Victoria, 13 Feb 1985, B.F. & J.L. Carr, 1 female (CNCI). This species is very similar to *A. punctulatus* Aubé and a number of the latter species labeled as *A. oblongulus* were found in the SMDV and Canadian National Collection of Insects (CNCI). The two species are separated by overall shape and by characters of the male protarsal claws and aedeagi (Larson *et al.* 2000). Unassociated females cannot always be identified with confidence. The *A. oblongulus* specimen in the SMDV is a male and we are confident of its identity; the CNCI specimen is an unassociated female so we cannot be as confident of its determination.

Agabus oblongulus may not be a new addition to the Canadian fauna as Criddle (1929) included it in his summary of new Canadian records for 1928. No voucher specimen for that record is known and because of the difficulties in correctly determining this species, such a record cannot be accepted without a voucher specimen. Its inclusion in Larson and Roughley (1991) is probably based on four specimens in the CNCI collected by H.B. Leech in Salmon Arm. We reexamined those specimens and found that they are *A. punctulatus* not *A. oblongulus*.

***Ilybius oblitus* Sharp:** ON, Rondeau Provincial Park, 26 Jun 1985, G.G.E. Scudder, 1 female (SMDV). *Ilybius oblitus* has a widespread distribution in the eastern United States and its occurrence in Canada was expected (Larson *et al.* 2000). This species is included in Larson and Roughley (1991). As there are no Canadian specimens of this species in the CNCI (Y. Bousquet, personal communication), it is possible that its inclusion was based on the SMDV specimen.

Based on the records reported here, *P. simplex* needs to be added to the "Checklist of Beetles of Canada and Alaska" with an entry under BC. The listings for *I. oblitus* (ON) and *A. oblongulus* (BC) are now validated by voucher specimens. Larson *et al.* (2000) needs to be amended as follows: *I. oblitus* (225a) needs to be added to Table 1 with an entry for ON; the species totals then become 277 for Canada and 160 for ON. The distribution information in the species discussions needs to be updated for *A. oblongulus* and *I. oblitus*.

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REFERENCES

- Bousquet, Y. (ed). 1991. *Checklist of Beetles of Canada and Alaska*. Research Branch, Agriculture Canada Publication 1861/E.
- Criddle, N. 1929. The Entomological Record 1928. Fifty-ninth Annual Report of the Entomological Society of Ontario, Ontario Department of Agriculture, pp. 110-124.
- Kuehnl, K.F. 2002. The Crawling Water Beetles (Halipilidae) of Utah; Taxonomy and Biogeography. MSc. Thesis, Brigham Young University, Provo, Utah.
- Larson, D.J., and R.E. Roughley 1991. Dytiscidae, pp. 62-72. In Y. Bousquet (ed), *Checklist of Beetles of Canada and Alaska*. Research Branch, Agriculture Canada Publication 1861/E.
- Larson, D.J., Y. Alarie, and R.E. Roughley 2000. *Predaceous Diving Beetles (Coleoptera: Dytiscidae) of the Nearctic Region, with emphasis on the fauna of Canada and Alaska*. NRC Research Press, Ottawa, ON, Canada.
- McCorquodale, D.B. 2001. New records and notes on previously reported species of Cerambycidae (Coleoptera) for Ontario and Canada. Proceedings of the Entomological Society of Ontario, 132: 3-13.
- Wheeler T.A. 2003. The role of voucher specimens in validating faunistic and ecological research. Biological Survey of Canada (Terrestrial Arthropods), Document series No. 9.
- Wiggins, G.B., S.A. Marshall, and J.A. Downes 1991. The importance of research collections of terrestrial arthropods. Bulletin of the Entomological Society of Canada, No. 23, Supplement, pp.1-16.